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EXAMINER
CHEN, QING

ART UNIT	PAPER NUMBER
2191	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/767,604	LIANG ET AL.
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2007*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 January 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office action is in response to the amendment filed on January 15, 2007.

2.   **Claims 1-38** are pending.

3.   **Claims 1, 3-15, 17-21, 23, 24, 27-31, 33-35, 37, and 38** have been amended.

4.   The objections to the oath/declaration are withdrawn in view of Applicant's amendments
to the oath/declaration.

5.   The objections to the drawings are withdrawn in view of Applicant's amendments to the
drawings.

6.   The objections to the specification are withdrawn in view of Applicant's amendments to
the specification.

7.   The objections to Claims 12, 14, 19, and 31 are withdrawn in view of Applicant's
amendments to the claims.

8.   The 35 U.S.C. § 112, second paragraph, rejection of Claim 29 is withdrawn in view of
Applicant's amendments to the claims.

9.   The 35 U.S.C. § 101 rejections of Claims 35 and 37 are withdrawn in view of Applicant's
amendments to the claims.

Response to Amendment

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. .

11.   **Claims 1-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kaler et al.**

(US 6,467,052).

As per **Claim 1,** Kaler et al. disclose:

-    a communication device comprising a recording module, wherein the recording

module causes the recording of input information that is input to the communication device

during real-time operation of the communication device *(see Figure 3: 199; Column 11: 66-67*

through Column 12: 1-9, "Events created by IECs 193, 195, 197 and DECs 189, 194, 196, 198

are collected by LEC 199. The LEC 199 collects events generated by the IECs and DECs and

sends these events to the user's control station, VSA 100, for analysis and display in a user-

determined format."); and

-    a playback device comprising a model of the communication device that the playback

device executes according to the recorded input information *(see Figure 13; Column 32: 28-34,*

"FIG. 13 illustrates a screen print of an animated application model which the present invention

generates to show the structure and activity of an application whose performance is being

studied. ").

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 2,** the rejection of **Claim 1** is incorporated; and Kaler et al. further disclose:

- a debugging module that provides for controlling and observing the operation of the

playback device *(see Column 22: 50-67 through Column 23: 1-11, "Like any debugging tool, the*

VSA should ensure that the debuggability of the system cannot become a security hole.

Additionally, VSA debugging is a shared resource in a distributed environment. As such, it is

important that proper security precautions be taken to prevent malicious users from obtaining

this data. ").

As per **Claim 3,** the rejection of **Claim 1** is incorporated; and Kaler et al. further disclose:

- wherein the playback device is communicatively coupled to the communication

device and the recording module causes the input information to be sent to the playback device

during real-time operation of the communication device *(see Figure 2; Column 11: 20-31, "VSA*

100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each machine

includes a Local Event Concentrator (LEC) 112, 152.").

       However, <u>Kaler et al.</u> do not disclose:

-   that the communication device is a modem.

       Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

       As per **Claim 4**, the rejection of **Claim 1** is incorporated; and <u>Kaler et al.</u> further disclose:

-   a computer communicatively coupled to the communication device, wherein the

recording module causes the recording of the input information to a memory device of the

computer *(see Column 8: 26-29; Column 11: 4-10, "The system illustrated in FIG. 2 is a*

globally distributed system in which different machines 100, 102, 104, 106, and 108 are

physically located on several different continents."; Column 12: 29-32, "Data collection begins

in the IECs. An IEC is a subroutine that marshals the desired data into a special format and puts

it in a shared memory buffer."; Column 13: 21-26).

       However, <u>Kaler et al.</u> do not disclose:

-   that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 5**, the rejection of **Claim 1** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the input information comprises input data and input commands received from a computer that is communicatively couple to the communication device, and input information from a device other than the computer, which is communicatively coupled to the communication device *(see Column 12: 29-32; Column 13: 59-67 through Column 14: 1-6, "... a DEC gathers information on a time basis, such as memory usage within the system, not necessarily events coming from within the application."; Column 25: 33-39)*.

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 6**, the rejection of **Claim 1** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the model of the communication device comprises a bit-exact software model *(see Column 32: 57-62, "As new diagram elements are identified, they are added to the user's screen 370."; Column 35: 36-47, "... so that in real time as an application is being analyzed, one block will appear, then another, and then the interconnection between the two blocks. Blocks are dynamically added, removed, and moved, and the interconnections between them are dynamically changed to reflect changing conditions in the execution of the application. The diagram is kept up to date with what is really happening. ").*

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 7**, the rejection of **Claim 1** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the playback device comprises hardware modeling components of the communication device *(see Figure 13; Column 32: 28-34, "FIG. 13 illustrates a screen print of*

an animated application model which the present invention generates to show the structure and

activity of an application whose performance is being studied. ").

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 8**, the rejection of **Claim 1** is incorporated; and <u>Kaler et al.</u> further disclose:

- a networked computer coupled to the communication device over a computer

network, and wherein the recording module causes the communication device to send the input

information to the networked computer *(see Column 8: 37-47, "The invention can also be*

practiced in distributed computing environments where tasks are performed by remote

processing devices linked through a communications network."; Column 11: 20-27, "VSA 100 is

coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each machine includes

a Local Event Concentrator (LEC) 112, 152. ").

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 9,** Kaler et al. disclose:

- a first input that receives information from a first device *(see Figure 2: 102; Column

11: 20-27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108.

Each machine includes a Local Event Concentrator (LEC) 112, 152.")*;

- a second input that receives information from a second device with which the first

device is communicating with using the communication device *(see Figure 2: 104; Column 11:

20-27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108.

Each machine includes a Local Event Concentrator (LEC) 112, 152.")*; and

- a recording module communicatively coupled to the first input and the second input

that causes input information arriving at one or both of the first input and the second input during

real-time operation of the communication device to be recorded for subsequent non-real-time

analysis *(see Figure 2: 100; Column 11: 20-27, "VSA 100 is coupled to one or more machines,

e.g. machines 102, 104, 106, and 108. Each machine includes a Local Event Concentrator (LEC)

112, 152.")*.

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 10**, the rejection of **Claim 9** is incorporated; and Kaler et al. further

disclose:

- a command input that receives communication device control commands from the

first device, and wherein the recording module further causes communication device control

commands arriving at the command input during real-time operation of the communication

device to be recorded for subsequent non-real-time analysis *(see Column 11: 20-27 and 66-67*

through Column 12: 1-9, "Events created by IECs 193, 195, 197 and DECs 189, 194, 196, 198

are collected by LEC 199. The LEC 199 collects events generated by the IECs and DECs and

sends these events to the user's control station, VSA 100, for analysis and display in a user-

determined format.").

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 11**, the rejection of **Claim 9** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the first device is a computer system, and wherein the recording module causes the input information arriving at the first input and the second input during real-time operation of the communication device to be recorded on a memory device of the computer system *(see Column 8: 26-29; Column 12: 29-32, "Data collection begins in the IECs. An IEC is a subroutine that marshals the desired data into a special format and puts it in a shared memory buffer."; Column 13: 21-26).*

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 12**, the rejection of **Claim 9** is incorporated; and <u>Kaler et al.</u> further

disclose:

- wherein the recording module causes input information arriving at the first input and

the second input to be communicated to a networked computer communicatively coupled to the

communication device over a communication network and recorded on a memory device of the

networked computer *(see Column 8: 37-47, "The invention can also be practiced in distributed*

computing environments where tasks are performed by remote processing devices linked through

a communications network."; Column 11: 4-10 and 20-31; Column 12: 29-32, "Data collection

begins in the IECs. An IEC is a subroutine that marshals the desired data into a special format

and puts it in a shared memory buffer.").

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 13**, the rejection of **Claim 9** is incorporated; however, <u>Kaler et al.</u> do not

disclose:

- wherein the communication device comprises an ADSL modem.

Official Notice is taken that it is old and well known within the computing art to utilize

an ADSL modem as the communication device. An ADSL modem is a widely used broadband

modem used in home networks for establishing communications over a network. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to

include wherein the communication device comprises an ADSL modem. The modification would

be obvious because one of ordinary skill in the art would be motivated to analyze the

performance of an ADSL modem.

As per **Claim 14,** <u>Kaler et al.</u> disclose:

- a memory device *(see Column 8: 26-29, "... a personal computer (PC).")*; and

- a communication device communicatively coupled to the memory device *(see

Column 8: 26-29, "... a personal computer (PC)."),* the communication device comprising:

- a first input that receives information from a first device *(see Figure 2: 102;

Column 11: 20-27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106,

and 108. Each machine includes a Local Event Concentrator (LEC) 112, 152.")*;

- a second input that receives information from a second device with which the first

device is communicating using the communication device *(see Figure 2: 104; Column 11: 20-

27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each

machine includes a Local Event Concentrator (LEC) 112, 152.")*; and

- a recording module communicatively coupled to the first input, the second input

and the memory device that causes information received at one or both of the first input and the

second input to be stored in the memory device for subsequent non-real-time analysis *(see*

Figure 2: 100; Column 11: 20-27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each machine includes a Local Event Concentrator (LEC) 112, 152.").

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 15**, the rejection of **Claim 14** is incorporated; and Kaler et al. further disclose:

- a command input that receives communication device control commands from the first device, and wherein the recording module further causes communication device control commands received at the command input during real-time operation of the communication device to be stored in the memory device for subsequent non-real-time analysis *(see Column 11: 20-27 and 66-67 through Column 12: 1-9, "Events created by IECs 193, 195, 197 and DECs 189, 194, 196, 198 are collected by LEC 199. The LEC 199 collects events generated by the IECs and DECs and sends these events to the user's control station, VSA 100, for analysis and display in a user-determined format.").*

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 16**, the rejection of **Claim 14** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the first device comprises the memory device *(see Column 8: 26-29, "... a personal computer (PC).")*.

As per **Claim 17**, the rejection of **Claim 14** is incorporated; and <u>Kaler et al.</u> further disclose:

- a networked computer communicatively coupled to the communication device, and wherein the networked computer comprises the memory device *(see Column 8: 37-47, "The invention can also be practiced in distributed computing environments where tasks are performed by remote processing devices linked through a communications network.")*.

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 18**, the rejection of **Claim 14** is incorporated; however, Kaler et al. do not disclose:

-   wherein the communication device comprises an ADSL modem.

Official Notice is taken that it is old and well known within the computing art to utilize an ADSL modem as the communication device. An ADSL modem is a widely used broadband modem used in home networks for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein the communication device comprises an ADSL modem. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of an ADSL modem.

As per **Claim 19**, Kaler et al. disclose:

-   a memory comprising input information that was obtained from a communication device during real-time operation of the communication device *(see Column 8: 26-29 and 62-67 through Column 9: 1-5, "The system memory 22 may also be referred to as simply the memory,*

and it includes read-only memory (ROM) 24 and random-access memory (RAM) 25. "; Column

11: 20-31, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108.

Each machine includes a Local Event Concentrator (LEC) 112, 152. "); and

- a playback module communicatively coupled to the memory, the playback module

comprising a model of the communication device that the playback module executes according

to the input information in the memory *(see Figure 13; Column 32: 28-34, "FIG. 13 illustrates a*

screen print of an animated application model which the present invention generates to show the

structure and activity of an application whose performance is being studied. ").

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 20**, the rejection of **Claim 19** is incorporated; and Kaler et al. further

disclose:

- information from a computer coupled to the communication device; and

- information from a device with which the computer is communicating using the

communication device *(see Column 11: 20-31, "VSA 100 is coupled to one or more machines,*

e.g. machines 102, 104, 106, and 108. Each machine includes a Local Event Concentrator (LEC)

112, 152."; Column 12: 4-9, *"IECs and DECs reside in the process space of data sources within*

a machine, and they "report on" these data sources. ").

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 21**, the rejection of **Claim 19** is incorporated; and <u>Kaler et al.</u> further

disclose:

- wherein the input information comprises data and communication device control

commands sent from a computer to the communication device *(see Column 12: 29-32; Column*

13: 59-67 through Column 14: 1-6, "... a DEC gathers information on a time basis, such as

memory usage within the system, not necessarily events coming from within the application. ";

Column 25: 33-39).

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 22**, the rejection of **Claim 19** is incorporated; and <u>Kaler et al.</u> further

disclose:

- a debugging module communicatively coupled to the playback module that provides

for controlling and observing the operation of the playback module *(see Column 22: 50-67*

through Column 23: 1-11, "Like any debugging tool, the VSA should ensure that the

debuggability of the system cannot become a security hole. Additionally, VSA debugging is a

shared resource in a distributed environment. As such, it is important that proper security

precautions be taken to prevent malicious users from obtaining this data. ").

As per **Claim 23**, the rejection of **Claim 19** is incorporated; and <u>Kaler et al.</u> further

disclose:

- wherein the model of the communication device comprises a bit-exact software

model of the communication device *(see Column 32: 57-62, "As new diagram elements are*

identified, they are added to the user's screen 370. "; Column 35: 36-47, "... so that in real time

as an application is being analyzed, one block will appear, then another, and then the

interconnection between the two blocks. Blocks are dynamically added, removed, and moved, and the interconnections between them are dynamically changed to reflect changing conditions in the execution of the application. The diagram is kept up to date with what is really happening.").

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 24,** the rejection of **Claim 19** is incorporated; and <u>Kaler et al.</u> further disclose:

- a computer communicatively coupled to the communication device, and wherein the memory is a memory device of the computer *(see Column 8: 26-29, "... a personal computer (PC)." and 37-47, "The invention can also be practiced in distributed computing environments where tasks are performed by remote processing devices linked through a communications network.").*

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 25**, the rejection of **Claim 24** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the computer comprises the playback module *(see Figure 13; Column 32: 28-34, "FIG. 13 illustrates a screen print of an animated application model which the present invention generates to show the structure and activity of an application whose performance is being studied.")*.

As per **Claim 26**, the rejection of **Claim 19** is incorporated; and <u>Kaler et al.</u> further disclose:

- a networked computer communicatively coupled to the communication device over a computer network, and wherein the networked computer comprises the memory *(see Column 8: 37-47, "The invention can also be practiced in distributed computing environments where tasks are performed by remote processing devices linked through a communications network.")*.

As per **Claim 27**, <u>Kaler et al.</u> disclose:

- operating the communication device in real-time, the communication device comprising a recording module *(see Figure 3: 199; Column 4: 42-44, "... displaying to the developer an animated model of the application as it is executing, either in real time or "post mortem.";" Column 11: 20-31, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each machine includes a Local Event Concentrator (LEC) 112, 152.";" Column 35: 40-41, "... so that in real time as an application is being analyzed ...")*;

- utilizing the recording module to cause the recording of input information input to the communication device during real-time operation of the communication device *(see Column 11: 66-67 through Column 12: 1-9, "Events created by IECs 193, 195, 197 and DECs 189, 194, 196, 198 are collected by LEC 199. The LEC 199 collects events generated by the IECs and DECs and sends these events to the user's control station, VSA 100, for analysis and display in a user-determined format.")*; and

- executing a model of the communication device, wherein the model is responsive to the recorded input information *(see Column 32: 28-34, "FIG. 13 illustrates a screen print of an animated application model which the present invention generates to show the structure and activity of an application whose performance is being studied.")*.

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 28**, the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further

disclose:

-   wherein utilizing the recording module comprises utilizing the recording module to

cause the recording of the input information to a memory device of a computer that is connected

to the communication device *(see Column 8: 26-29; Column 12: 29-32, "Data collection begins*

in the IECs. An IEC is a subroutine that marshals the desired data into a special format and puts

it in a shared memory buffer."; Column 13: 21-26).

However, <u>Kaler et al.</u> do not disclose:

-   that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 29**, the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further

disclose:

- operating the communication device comprises running the communication device as an operating system device driver on a computer that is utilizing the communication device *(see Column 10: 54-56, "... certain portions of the invention are provided within the Microsoft Windows® operating system.")*; and

- utilizing the recording module comprises utilizing the recording module to cause the recording of the input information to a memory device of the computer *(see Column 8: 26-29; Column 12: 29-32, "Data collection begins in the IECs. An IEC is a subroutine that marshals the desired data into a special format and puts it in a shared memory buffer."; Column 13: 21-26)*.

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 30**, the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein utilizing the recording module comprises utilizing the recording module to cause the recording of the input information a memory device of a computer that is

communicatively coupled to the communication device through a communication network *(see*

Column 8: 26-29; Column 12: 29-32, "Data collection begins in the IECs. An IEC is a

subroutine that marshals the desired data into a special format and puts it in a shared memory

buffer."; Column 13: 21-26).

However, Kaler et al. do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 31**, the rejection of **Claim 30** is incorporated; and Kaler et al. further

disclose:

- wherein utilizing the recording module comprises executing a recording application

program on the computer *(see Column 32: 28-45, "An important innovation in the VSA's*

analysis function is its ability to dynamically generate diagrams of the functionally active

structure of the application.").

As per **Claim 32**, the rejection of **Claim 27** is incorporated; and Kaler et al. further

disclose:

- wherein utilizing the recording module comprises utilizing the recording module to cause the recording of input data and input commands from a computer and input samples from a communication medium *(see Figure 2: 100; Column 11: 20-27, "VSA 100 is coupled to one or more machines, e.g. machines 102, 104, 106, and 108. Each machine includes a Local Event Concentrator (LEC) 112, 152.")*.

As per **Claim 33**, the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further disclose:

- reading the recorded input information into a software model of the communication device *(see Column 32: 35-40, "The VSA creates the application diagrams by closely examining the event data that is received. As explained above, events are correlated by the VSA to understand the flow of control. The data design described above makes it possible to understand which events need to be correlated and how they should be grouped and connected.")*.

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 34,** the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further disclose:

- wherein the model comprises a bit-exact software model of the communication device *(see Column 32: 57-62, "As new diagram elements are identified, they are added to the user's screen 370.''; Column 35: 36-47, "... so that in real time as an application is being analyzed, one block will appear, then another, and then the interconnection between the two blocks. Blocks are dynamically added, removed, and moved, and the interconnections between them are dynamically changed to reflect changing conditions in the execution of the application. The diagram is kept up to date with what is really happening. ").*

However, <u>Kaler et al.</u> do not disclose:

- that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a modem as the communication device. A modem is a widely used communication device in a computing system for establishing communications over a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a modem as the communication device. The modification would be obvious because one of ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 35,** the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further disclose:

- debugging operation of the communication device by, at least in part, observing execution of the model on the recorded input information *(see Column 22: 50-67 through*

Column 23: 1-11, "Like any debugging tool, the VSA should ensure that the debuggability of the

system cannot become a security hole. Additionally, VSA debugging is a shared resource in a

distributed environment. As such, it is important that proper security precautions be taken to

prevent malicious users from obtaining this data. ").

However, <u>Kaler et al.</u> do not disclose:

-   that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 36**, the rejection of **Claim 35** is incorporated; and <u>Kaler et al.</u> further

disclose:

-   wherein observing execution of the model comprises executing a debugging tool

communicatively coupled to the model *(see Column 22: 50-67 through Column 23: 1-11, "Like*

any debugging tool, the VSA should ensure that the debuggability of the system cannot become a

security hole. Additionally, VSA debugging is a shared resource in a distributed environment. As

such, it is important that proper security precautions be taken to prevent malicious users from

obtaining this data. ").

As per **Claim 37**, the rejection of **Claim 27** is incorporated; and <u>Kaler et al.</u> further

disclose:

-   debugging operation of the communication device by, at least in part, observing

execution of the model with the recorded input information in non-real-time *(see Column 22: 50-*

67 through Column 23: 1-11, "Like any debugging tool, the VSA should ensure that the

debuggability of the system cannot become a security hole. Additionally, VSA debugging is a

shared resource in a distributed environment. As such, it is important that proper security

precautions be taken to prevent malicious users from obtaining this data. ").

However, <u>Kaler et al.</u> do not disclose:

-   that the communication device is a modem.

Official Notice is taken that it is old and well known within the computing art to utilize a

modem as the communication device. A modem is a widely used communication device in a

computing system for establishing communications over a network. Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to include a

modem as the communication device. The modification would be obvious because one of

ordinary skill in the art would be motivated to analyze the performance of a modem.

As per **Claim 38**, the rejection of **Claim 27** is incorporated; however, <u>Kaler et al.</u> do not

disclose:

-   wherein the communication device comprises an ADSL modem.

Official Notice is taken that it is old and well known within the computing art to utilize

an ADSL modem as the communication device. An ADSL modem is a widely used broadband

modem used in home networks for establishing communications over a network. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to

include wherein the communication device comprises an ADSL modem. The modification would

be obvious because one of ordinary skill in the art would be motivated to analyze the

performance of an ADSL modem.

Response to Arguments

12.   Applicant's arguments with respect to Claims 1, 9-12, 14, 19, 21, and 27 have been

considered, but are moot in view of the new ground(s) of rejection.

In the remarks, Applicant argues that:

a)   The Office Action states that Kaler discloses "that the model of the communication

device is a bit-exact software model (see Column 32, Lines 57-62; and Column 35, Lines 36-

47)." The Applicants respectfully disagree with this characterization of Kaler. For example, col.

32, lines 57-62 and col. 35, lines 36-47 discuss an application model being dynamically

maintained "as new diagram elements are identified" where "blocks are dynamically added,

removed, and moved, and the interconnections between them are dynamically changed to reflect

changing conditions in the execution of the application". The Applicants respectfully submit that

dynamic display of real-time conditions of an application does not teach a bit-exact software

model of anything, much less the claimed "model of the modem" comprising "a bit-exact

software model".

Examiner's response:

a)   Examiner disagrees with Applicant's assertion that dynamic display of real-time

conditions of an application does not teach a bit-exact software model. Kaler et al. disclose that

blocks are dynamically added, removed, and moved, and the interconnections between them are

dynamically changed to reflect changing conditions in the execution of the application and that

the diagram is kept up to date with what is really happening. In other words, the model is being

kept up-to-date (bit-exact) with the application as it is being executed. Thus, the resulting model

is the same as the device it is modeling.

In the remarks, Applicant argues that:

b)   The Office Action states that Kaler discloses "that the model of the communication

device comprises a device substantially similar to at least a portion of the communication device

(see Figure 13; and Column 32, Lines 28-31)". The Applicants respectfully disagree with this

characterization of Kaler. For example, Figure 13 and col. 32, lines 28-31 show and discuss a

screen print of an animated application model to show the structure and activity of an application

whose performance is being studied. The Applicants respectfully submit that such an animated

application model does not show that any model includes "a device substantially similar to at

least a portion of the communication device" or a device substantially similar to any device,

including the claimed modem. More specifically to claim 7, the Applicants submit that a block

representation on a screen of a control and display station does not show the claimed playback

device comprising hardware modeling components of the modem.

Examiner's response:

b)   Examiner disagrees with Applicant's assertion that a block representation on a screen of a

control and display station does not show the claimed playback device comprising hardware

modeling components of the modem. Kaler et al. disclose that a screen print of an animated

application model showing the structure and activity of an application whose performance is

being studied. Note that the structure and activity of an application are interpreted as the

"hardware modeling components" as required by the claim.

Conclusion

13.   Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WEI ZHEN
SUPERVISORY PATENT EXAMINER

QC / QC
March 8, 2007